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ABSTRACT

A study was conducted at Clemson University involving 90 high-risk freshmen who were enrolled in special English sections on the basis of low verbal Stanford Achievement Test scores. Thirty students made up the experimental group, and 60 students, the control group. Students in the experimental group were those who volunteered to take the reading improvement course. The purpose of the study was to evaluate three goals: (1) the improvement of reading skills, (2) the reduction of attrition rates, and (3) an increased grade-point ratio. This report contains an evaluation of reading gain for the 90 subjects, based on the results of the Nelson-Denny Reading Test, Forms A and B. The results showed that the experimental group made higher gains in vocabulary, reading rate, and total reading than the control group. The failure of the experimental group to make gains in the area of comprehension is interpreted somewhat favorably in light of the fact that significant gains were made in rate without a loss of comprehension. It was concluded that a reading improvement program is beneficial to students with limited verbal skills. Tables and references are included. (AI)

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The Effect of a College Reading Program Upon The Reading Gains, Grade Point Ratio and Attrition Rate for High-Risk Freshmen, Part I, Reading Gains

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RE003 804

THE EFFECT OF A COLLEGE READING PROGRAM UPON THE READING GAINS, GRADE POINT RATIO AND ATTRITION RATE FOR HIGH-RISK FRESHMEN, PART I, READING GAINS

Introduction

Universities and colleges have been under increasing pressure to make available higher education for more students. In answering this demand, the universities are accepting some students whose academic skills are likely to be inadequate for college work. The admission of high-risk students carries with it the responsibility on the part of the universities to insure as far as it is possible that these students are successful. The offering of special programs has been one approach to reducing the dropout rate among these students and to increasing their grade point ratio.

Statement of the Problem

For three years Clemson University has isolated entering freshmen who scored below 350 on the verbal portion of the SAT in small sections (maximum of 15 students per section) of the first semester of Freshmen English, a course comprised of composition and a review of mechanics. A detailed study of the progress of these students and of their success level is underway.

Several unique course arrangements for these slower students have appeared to contribute measurably to a success level, both in English and other college work, which significantly exceeded the level predicted for them at the time of their entrance. These arrangements include special emphasis on more basic English skills than regularly would be stressed in a freshman class, slower more detailed review of simple mechanics, benefits of individualized instruction by a selected corps of teachers, and absence of the frustrations of competing with more accomplished freshmen.

The fact became obvious, however, that even though the students improved in elementary composition skills, they remained sharply limited without accompanying improvement in their reading skills. Although Freshman English at Clemson puts primary stress on composition, the second semester of the course adds heavy emphasis on literature; in addition, truth exists in the English teachers' cliche that "....if they can't read, they can't write." Furthermore, Clemson students are required to take an additional year of English comprised of a survey of literature. In these classes, as well as in other disciplines such as history which require heavy reading, academic trouble could still be anticipated.

In prior years, a minimal remedial reading program was available to no more than 5 - 10 students each semester on a wholly voluntary basis. Therefore, an organized program of remedial reading was added to the University curriculum. With the cooperation of the Department of English, the College of Education made available space in the expanded reading clinic first to students in these special sections of Freshman English.

Related Literature

Recently there have been several investigations on the effect of a reading study-skills program upon high-risk freshmen. A study at West Virginia University conducted by Ikenberry, Kennedy and Field (1966) found that significant benefits which lasted at least through their freshman year were derived by students in the reading skills program. Two of these benefits were increased grade point average and a lower withdrawal rate. However, some question as to long-term benefits arose since in the sophomore and more significantly in the junior year increases in achievement seemed to level off and the dropout rate for students who had taken the reading program reached that of students who had not.

In Earl Thomas's article (1968), his jury of expert teachers of English voted "the ability to read more effectively" as among the major objectives of remedial work in English. Thomas pointed out that reading skill was generally accepted to be a factor in increasing academic achievement.

The benefits in grade point ratio and lower dropout level were affirmed by Robert Sawyer (1969) in a study carried out at the University of Missouri at Rolla. On the other hand, Colvin (1968) found no significant differences on grade point ratio or reading achievement between the experimental and control group in his study. He found that both groups showed a significant growth in reading achievement.

One of the comments made in the 1966 study was that "more such experimental study is needed at all educational levels asking not only 'which group came out best, but more importantly, how large were the gains...'." It was along these lines that the following study was begun at Clemson in August, 1970.

The Study

The objective of the Clemson University study was twofold. The first step was to evaluate the effectiveness of a reading improvement program on gains in reading among entering high-risk freshmen; the second step will be the evaluation of the effectiveness of the program on grade point average and attrition rate based on the completion of three semesters at the university. The null hypotheses to be tested for part one were:

1) There is no significant difference (.05 level) in reading gains between the experimental and the control group.
2) There is no significant difference (.05 level) in rate of reading gains for the experimental and the control group.

Subjects

Subjects for the experiment were 90 freshmen students at Clemson University who were assigned to special English sections on the basis of low verbal SAT scores. Thirty students comprised the experimental group and sixty students the control group. Students in the experimental group were those who volunteered to take the reading improvement course. An analysis of nine variables was employed at the beginning of the project to discern if any significant differences existed between the groups. Due to incomplete information on all nine variables only eighty of the ninety students were used in the analysis (26 S_1 and 54 S_2).

Method

Form A of the Nelson-Denny Reading test was administered to the subjects in the English class sections during the second class meeting of the 1970 Fall semester. The results of the test were shown to the students and those falling in the lowest quartile were urged by their instructors to take the reading improvement course. The subjects were not told that a study was being conducted.

The reading improvement class met for three one-hour sessions for fourteen weeks with one hour of academic credit. Individual schedules were set up through conferences with the instructor during the first week. Primarily self programmed materials were used. Weekly evaluation of individual progress and needs was made, and schedules were altered. [illegible]ix weeks, one week was scheduled for free reading in a novel. After this, individual work was resumed. Most of the students worked in 15-minute intervals during each class hour on three specific skills. A list of laboratory materials is available from the Clemson University Reading Clinic upon request.

Form B of the Nelson-Denny Reading Test was administered in the English class sections the last week of the 1970 Fall semester. An analysis of variance using a one-way classification model was used to determine whether there were significant differences on the post-test reading scores and to determine whether there were significant changes in reading scores for the two groups. The critical region was established at the .05 level. The student's t statistic was used to determine significant change within the groups.

Results

Presented in Table I is the summary table of nine variables for the experimental and control groups at the beginning of the Fall semester.

Insert Table I about here

Significant differences for the experimental group were found for the variables Vocabulary ($P < .01$), Total Reading ($P < .05$) and Reading Rate ($P < .05$). No significant difference at the .05 level was found for the other variables.

Table II presents the analysis of the post-test reading scores.

Insert Table II about here

Significant differences at the .05 level for the variable Reading Rate was found for the experimental group.

Table III presents the means for pre-test and post-test reading scores for the experimental and control groups.

Insert Table III about here

Presented in Table IV is the analysis of variance for the difference in reading gains.

Insert Table IV about here

Highly significant difference for the experimental group was found for the variables Vocabulary ($P < .01$) and Reading Rate ($P < .01$).

Table V presents means, standard deviation and t value for reading gains for each group.

Insert Table V about here

For the experimental group a highly significant difference was found in their rate of gain for the variables Vocabulary ($P < .01$) and Rate ($P < .01$) and a significant difference for the variable Total Reading ($P < .05$).

For the control group a significant difference was found in their rate of gain for the variables Vocabulary ($P < .05$) and Total Reading ($P < .05$) and a highly significant difference for the variable Rate ($P < .01$).

Discussion

The data in Table I indicates that the experimental group's initial reading scores on the variables Vocabulary, Total Reading and Reading Rate were significantly lower than those of the control group.

The data in Table II indicates that the experimental group has improved to the extent that on the post-test there is no longer a significant difference between the groups on the variables

Vocabulary and Total Reading and the experimental group's rate has exceeded the control group's rate significantly ($P < .05$) with no loss of comprehension.

The data in Table IV indicates that the reading course was highly successful in terms of Vocabulary gains and Reading Rate gains for the experimental group.

Table V indicates significant gains for the experimental group in Vocabulary ($P < .01$), Total Reading ($P < .05$) and Reading Rate ($P < .01$) and indicates that the control group made significant gains in Vocabulary ($P < .05$), Total Reading ($P < .05$) and Reading Rate ($P < .01$). While the rate gains of both groups were highly significant, it should be noted that the post-test mean of the experimental group was 304.6 words per minute and the mean of the control group was 266.5 words per minute (Table III).

In summary, it may be inferred from the statistical analysis that the hypothesis of no significant difference in gains between the experimental and the control group is rejected (Tables I, II and IV). Further, the hypothesis of no significant difference in rate of gain for the experimental and the control group is rejected (Table V).

The failure of the students to make gains in the area of comprehension is interpreted somewhat favorably in light of the fact that significant gains were made in rate without a loss in comprehension. Gains made by the control group might be attributed to the maturation process and to the small English composition sections where they received special attention from the instructors. It seems reasonable to conclude that a reading improvement program is beneficial to students with limited verbal skills.

Summary

A study was conducted at Clemson University involving 90 high-risk freshmen enrolled in special English sections to evaluate three goals: the improvement of reading skills, the reduction of attrition rates, and an increased grade point ratio. This preliminary report contains the evaluation of reading gains and the rate of gain for the 90 subjects and may be summarized as follows:

1) The experimental group's initial reading scores on Vocabulary, Total Reading and Reading Rate were significantly lower than the control group's.

2) The reading gains between groups was significant with the Vocabulary and Reading Rate gain of the experimental group found to be highly significant.

3) The rate of gain for the experimental group was highly significant for Vocabulary and for Reading Rate. The rate of gain for the control group was significant for Vocabulary and was highly significant for Reading rate.

4) The rate for the experimental group increased an average of approximately 100 words per minute with no loss in comprehension while the rate of the control group increased approximately 20 words per minute with no loss in comprehension.

The questions of attrition rate and grade point ratio will be evaluated after the beginning of the Fall semester.

Questions Raised

At this point the Clemson study has raised a question which bears further consideration. What would be the difference in the reading gains, grade point ratio and attrition rates between students in regular and special English sections receiving or not receiving reading instruction?

From this initial study another area of inquiry, self-concept, has been discussed as providing additional information about the effectiveness of the special programs offered to high-risk students. Both of these questions will be incorporated into a future study.

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TABLE I

Significance Tests for Differences Between Experimental and Control Groups in Pre-Test Reading Scores and Related Variables

Source	d.f.	MS	F
Vocabulary	1	375.556	8.46**
Comprehension	1	283.7556	2.668
Total Reading	1	785.4222	4.412*
Reading Rate	1	22392.9844	5.137*
Predicted Grade Point Ratio	1	0.2007	1.478
SAT Verbal	1	92.6919	0.074
High School Rank	1	6159.0044	0.590
High School Size	1	538.2773	0.140
Age	1	0.8591	0.790

* $P < .05$
** $P < .01$

TABLE II

Significance Tests for Difference Between Experimental and Control Group on Post-Test Reading Scores

Source	d.f.	MS	F
Vocabulary	1	12.4574	0.335
Comprehension	1	149.6042	2.118
Total Reading	1	253.5558	1.617
Reading Rate	1	27197.9649	4.227*

* $P < .05$

TABLE III
Means for Pre-Test and Post-Test Reading Scores

Source	Group	N.	Pre-test	N	Post-test
Vocabulary	Experimental	30	21.6	30	26.9
	Control	60	25.9	54	27.7
Comprehension	Experimental	30	31.6	30	31.7
	Control	60	35.3	54	34.5
Total Reading	Experimental	30	51.5	30	58.6
	Control	60	57.8	54	62.2
Reading Rate	Experimental	28	206.8	29	304.6
	Control	58	241.2	53	266.5

TABLE IV
Significance Tests for the Differences Between Experimental and Control Group in Reading Gain

Source	d.f.	MS	F
Vocabulary	1	252.2012	8.055**
Comprehension	1	18.2000	0.142
Total Reading	1	100.8859	0.565
Reading Rate	1	96,557.5782	17.586**

* P< .05
** P< .01

TABLE V

Means, Standard Deviation and t Values for Reading Gains

Source	N.	Experimental Group	M.	s.	t
Vocabulary	28	1	5.3571	5.5920	5.161**
Comprehension	28	1	1.0000	14.9814	0.468
Total Reading	28	1	6.1429	12.1524	2.432*
Reading Rate	28	1	101.8571	105.1058	7.274**

Variables	N.	Control Group	M.	s.	t
Vocabulary	52	2	1.6346	5.4414	2.147*
Comprehension	52	2	0.0000	8.7850	0.0
Total Reading	52	2	3.7885	13.9569	2.044*
Reading Rate	52	2	29.0192	50.4779	3.205**

* $P < .05$
** $P < .01$